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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,192	11/13/2001	Srinivas Gutta	US 010569	3013

24737 7590 10/31/2007
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
USTARIS, JOSEPH G	
ART UNIT	PAPER NUMBER
2623	
MAIL DATE	DELIVERY MODE
10/31/2007	PAPER

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

OCT 31 2007

Technology Center 2600

Application Number: 10/014,192
Filing Date: November 13, 2001
Appellant(s): GUTTA ET AL.

Robert M. McDermott, Esq.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 06, 2007 appealing from the Office action mailed March 02, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1, 3-9,11-14, and 16-23 are pending in the application.

Claims 1, 3-9, 11-14, and 16-23 stand rejected by the Examiner under 35 U.S.C. 101.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,041,311	Chislenko et al.	3-2000
7,003,484	Keyes et al.	2-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-9, 11-14, and 16-23 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 9, 14, 19, and 20 define nothing more than mathematical algorithm that, by itself, is a Judicial Exception (i.e., non-statutory). Judicial Exceptions may be statutory if they recite a practical application, or they are part of an otherwise statutory claim, ***and*** if the claimed practical application does not "preempt" the Judicial Exception. While 1, 9, 14, 19, and 20 appears to broadly recite a practical application of the mathematical algorithm, such a broad application preempts the mathematical algorithm because in effect, it recites every "substantial practical application" thereof. Therefore, 1-20 are rejected as being non-statutory as preempting a law of nature.

The examiner suggests clarifying the claimed practical application so as to exclude recitation of every "substantial practical application" of the claimed law of nature. Any amendment to the claim should be commensurate with its corresponding disclosure.

Furthermore, claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to a disembodied computer program, which falls under non-statutory subject matter.

Claims 1, 3-7, 9, 11, 12, 14, 16, 17, 19, 20, and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Chislenko et al. (US006041311A).

Regarding claim 1, Chislenko et al. (Chislenko) discloses a method for identifying one or more mean items (e.g. the rated items, which their ratings are averaged) for a plurality of items (e.g. the group), J, each of the items having a symbolic value (e.g. the value of the rating) of a symbolic attribute (e.g. the rating of the item), the method comprising (See col. 10 lines 32-64):

computing a variance of the symbolic values of the plurality of items (e.g. the value of the centroid of the group) relative to the symbolic value of each of the items (e.g. how much of a difference/variance is the item rating from the value of the group centroid) (See col. 10 lines 58-64); and

selecting at least one mean item (e.g. the item best represents the groups average rating, for example "POP" music rating) that has symbolic value that minimizes the variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid) (See col. 10 lines 32-64).

Regarding claim 3, the system assigns a label to the plurality of items using the symbolic value of the selected mean item (See col. 10 lines 21-26 and 32-42).

Regarding claim 4, the plurality of items are a cluster including of similar items (e.g. each group includes similar music content/genre) (See col. 10 lines 32-64).

Regarding claim 5, the items are programs (e.g. music programs and movies) (See col. 3 lines 6-14).

Regarding claim 6, the items are content (e.g. music recordings and movies) (See col. 3 lines 6-14).

Regarding claim 7, the items are products (e.g. novels and restaurants) (See col. 3 lines 6-14).

Claim 9 contains the limitations of claim 1 (wherein the method describes the qualities of the plurality of items by placing each item into groups) and is analyzed as previously discussed with respect to that claim. Furthermore, the selected item has the mean symbolic value (e.g. the item best represents the groups average rating, for example "POP" music rating) (See col. 10 lines 32-64).

Claim 11 contains the limitations of claims 3 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 12 contains the limitations of claims 4 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 14 contains the limitations of claim 1 (wherein the system has a memory for storing computer readable code and a processor operatively coupled to the memory (See Fig. 3, col. 2 lines 40-55 and col. 19 lines 41-51)) and is analyzed as previously discussed with respect to that claim.

Claim 16 contains the limitations of claims 3 and 14 and is analyzed as previously discussed with respect to those claims.

Claim 17 contains the limitations of claims 4 and 14 and is analyzed as previously discussed with respect to those claims.

Claim 19 contains the limitations of claim 1 (wherein the process is stored on an article of manufacture (See Fig. 3, col. 2 lines 40-55 and col. 19 lines 41-51)) and is analyzed as previously discussed with respect to that claim.

Claim 20 contains the limitations of claims 1 and 14 (wherein the system has the means to computing and selecting as discussed in the claims above) and is analyzed as previously discussed with respect to those claims.

Regarding claim 21, the system includes:

computing a plurality of other variances (e.g. how much of a difference/variance is the item rating from the value of the other group centroids, for example "Opera" or "Rock") of other symbolic values of a plurality of other symbolic attributes of the plurality of items (e.g. the other value of the centroid of the other groups) relative to each other symbolic value of each of the items (e.g. the value rating for the item) (See col. 10 lines 32-64); and

selecting a plurality of other mean items (e.g. multiple mean items are selected after the iterative process is done to form the groups), each other mean item having the other symbolic value that minimizes each other variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid compared to the other group centroids) (See col. 10 lines 32-64).

Regarding claim 22, characterizing the plurality of items using the symbolic value of the at least one mean item and the other symbolic values of the plurality of other mean items (e.g. each item represents the groups average rating, for example "POP" music rating) (See col. 10 lines 32-64).

Regarding claim 23, the system includes:

computing a plurality of other variances (e.g. how much of a difference/variance is the item rating from the value of the other group centroids, for example "Opera" or "Rock") of other symbolic values of a plurality of other symbolic attributes of the plurality of items (e.g. the other value of the centroid of the other groups) relative to each other symbolic value of each of the items (e.g. the value rating for the item) (See col. 10 lines 32-64); and

selecting a plurality of other symbolic values (e.g. multiple value of ratings are selected after the iterative process is done to form the groups) that minimize each other variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid compared to the other group centroids) as a plurality of other mean symbolic values (e.g. the average rating of the other items) that characterize the plurality of other symbolic attributes of the plurality of items (e.g. the other mean symbolic values best represents each item of the whole group) (See col. 10 lines 32-64).

Claims 8, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chislenko et al. (US006041311A) in view of Keyes et al. (US007003484B2).

Claim 8 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim. Chislenko discloses selecting the at least one mean item that provides a minimum value of the variance or "Var (J)" as discussed in

claim 1 above. However, Chislenko does not disclose using "$Var(J) = \Sigma_{i \in J} (X_i - X_\mu)^2$" to compute the variance.

It is noted that "$Var(J) = \Sigma_{i \in J} (X_i - X_\mu)^2$" is one of many common and well known equations used to compute the variance (e.g. population/sample variance).

Keyes et al. (Keyes) discloses a minimization function used to assign each data point to a cluster that it belongs to. Keyes discloses a function identical to "$Var(J) = \Sigma_{i \in J} (X_i - X_\mu)^2$", where if μ_{ik} is equal to one then J or "c" is a cluster of items of a class, X_i or "X_k" is the symbolic value of each item, i or "k", and X_μ or "V_i" is the symbolic value of each item, μ (See col. 22 lines 15-37). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the method disclosed by Chislenko to use the equation form "$Var(J) = \Sigma_{i \in J} (X_i - X_\mu)^2$" to compute the variance such that it minimizes Var (J), as taught by Keyes, in order to provide a more accurate means of grouping items together.

Claim 13 contains the limitations of claims 8 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 18 contains the limitations of claims 8 and 14 and is analyzed as previously discussed with respect to those claims.

(10) Response to Argument

Appellant argues with respect to claims 1, 3-9, 11-14, and 16-23 that the claims include specific limitations for identifying and characterizing items, and thus cannot be said to cover every substantial application for identifying and characterizing items. However, the claims merely recite a mathematical algorithm. Furthermore, it is noted

that the claims do not recite any specific practical application or physical transformation of the data. The claimed invention merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application. A practical application exists if the *result* of the claimed invention is "useful, concrete and tangible" (with the emphasis on "result")(Guidelines, section IV.C.2.b). A "useful" result is one that satisfies the utility requirement of section 101, a "concrete" result is one that is "repeatable" or "predictable", and a "tangible" result is one that is "real", or "real-world", as opposed to "abstract" (Guidelines, section IV.C.2.b)).

Furthermore, appellant argues with respect to claim 19 that the claim includes a computer program that is embodied on a computer readable medium, and thus cannot be said to be directed to a disembodied computer program. However, the program/algorithm itself merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application.

Appellant also argues with respect to claims 1, 3-9, 11-14, and 16-23 that Chislenko does not disclose computing a variance of the symbolic values of plurality of items relative to the symbolic value of each of the items, and does not disclose making a selection based on the symbolic value of an item that minimizes this variance. However, reading the claims in the broadest sense, Chislenko does meet the limitations of the claims. Chislenko discloses the system computes a variance (e.g. how much of a difference/variance is the item rating from the value of the group centroid) of the symbolic values of the plurality of items (e.g. the value of the centroid of the group) relative to the symbolic value of each of the items (e.g. the value of the rating for each

item) and selects at least one mean item (e.g. the item best represents the groups average rating, for example “POP” music rating) that has symbolic value that minimizes the variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid) (See col. 10 lines 32-64).

Furthermore, appellant argues that Chislenko determines a variance relative to the group centroid, and not relative to the value of each item. However, the claim recites computing a variance of the symbolic values of the plurality of times (e.g. the value of the centroid of the group) relative to the symbolic value of each of the items (e.g. the value of the rating for each item) (See col. 10 lines 32-64). Therefore, a variance is determined with the value of the centroid of the group relative to the value of the rating for each item. Furthermore, it is noted that the centroid is calculated from the items within the group (See col. 10 lines 48-57).

Appellant also argues that Chislenko does not disclose selecting at least one mean item that has the symbolic value that minimizes the variance. However, reading the claims in the broadest sense, Chislenko does meet that limitation in the claims. Chislenko discloses that the system selects at least one mean item (e.g. the item best represents the groups average rating, for example “POP” music rating) that has symbolic value (POP music rating) that minimizes the variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid) (See col. 10 lines 32-64). Therefore, the system selects the item with the POP music rating to be part of the group that has a group centroid value POP, because that symbolic value (POP music rating) minimizes the variance.

Appellant further argues with respect to claim 9 that Chislenko does not disclose selecting the symbolic value of at least one item that minimizes the variance as a mean symbolic value that characterizes the symbolic attribute of the plurality of items. However, reading the claims in the broadest sense, Chislenko does meet that limitation in the claims. As discussed above, Chislenko discloses that the system selects the item with the POP music rating to be part of the group that has a group centroid value POP, because that symbolic value (POP music rating) minimizes the variance. Furthermore, the selected item has the mean symbolic value (e.g. POP), wherein the item best represents the groups average rating (centroid), for example "POP" music rating or characterizes the symbolic attribute (the rating) of the plurality of items (See col. 10 lines 32-64).

Appellant also argues with respect to claims 8, 13, and 18 that Chislenko in view of Keyes does not disclose using "$Var(J) = \Sigma_{i \in J} (X_i - X_\mu)^2$" to compute the variance. Appellant points out that V_i of equation F of Keyes is the i^{th} cluster centroid not a symbolic value of each item. However, Keyes discloses one of many common and well known equations used to compute the variance (e.g. population/sample variance) (See col. 22 lines 15-37). Keyes discloses a form of the equation that computes the variance between one item value (data point) and another item value (value of the cluster centroid). Keeping the same form of the equation, one of ordinary skill in the art, would recognize that variables of the equation can be replaced with other values in order achieve the desired variance. For example, if one wanted to determine the variance

between one item value (data point) and another item value (data point), they would simply replace the value of the cluster centroid with the value of another data point.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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